

BONDARENKO, V.V.

SPRS 59205
6-73

IV-7. SOME METHODS OF LOW TEMPERATURE EPITAXY OF SILICON

[Article by L. N. Mikhaylov, N. Ya. Litvin, A. S. Adenin, V. V. Bondarenko, L. I. Kuz'mina, Moscow: Novosibirsk, III Sibirskiy nauchno-issledovatskiy tsentr, 12-17 June, 1972, p. 48]

A study was made of the temperature dependence of the growth rate of the epitaxial layers in the chloride system for epitaxy with high temperature low vacuum. The decrease in apparent activation energy of the growth process was noted for high temperature inoculation, ultraviolet radiation and preliminary heating of the hydrogen to a value of ~ 5 kcal/mole which is explained by a decrease in the gas adsorption on the substrate surface.

The use of a mixture of monosilane with an inert gas (helium) also led to a significant reduction in the epitaxial growth temperature. The perfect growth layers were obtained at a temperature of 850°C. The reduction in growth temperature is explained by a significant shift of equilibrium in reaction of the decomposed monosilane in the direction of formation of elementary silicon and a decrease in the adsorption of hydrogen on the substrate surface.

Conclusions were drawn regarding the possibilities of a further reduction in the epitaxy temperature.

USSR

UDC 621.4/.6:533.6

BONDARENKO, V. V., LISIYENKO, V. G., KITAYEV, B. I.

"Investigation of the Ejecting Capacity of an Ejector With a Short Mixing Chamber"

Sb. nauch. tr. Perm. politekhn. in-t (Collection of Scientific Works. Perm' Polytechnical Institute), 1971, No. 91, pp 207-212 (from RZh-Mekhanika, No 6, Jun 72, Abstract No 6B409)

Translation: The results of an experimental study of a low-head gas ejector with a central convergent active flow nozzle and a cylindrical mixing chamber are presented. The low-head air is sucked in from the atmosphere without choking. There is no output diffuser in the ejector so that exhaust into the atmosphere is directly from the mixing chamber. The effect of the length of the mixing chamber and the distance l from the cutoff of the nozzle to the input cross section of the mixing chamber on the ejection coefficient was investigated. It was established that the maximum value of k for small l is achieved for a relative length of the mixing chamber equal to 6 calibers (as referred to the diameter of the mixing chamber). For large l (about 20 calibers), the maximum value of k was achieved for a mixing chamber length of $\sim 4-4.5$ calibers. Yu. A. Lashkov.

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BONDARENKO, V.V.

JPRS 69203

6.73

4-5. PROBLEM OF THE MECHANISM OF SPARK ALLOYING IN THE PRESENCE OF EPITAXIAL GROWTH OF SEMICONDUCTOR MATERIALS

[Article by A. S. Adonin, L. N. Ukhovlov, V. V. Bondarenko, D. M. Sorokina, Moscow, Journal of Applied Physics, 111, 1977, pp. 1-17, 1977, in Russian, English translation in Journal of Applied Physics, 12-17 June 1977, p. 132]

Using the spark method of alloying, epitaxial structures were obtained with a distribution of the alloying admixture according to the regulated law which insures given dependence of the capacitance on the voltage in varicap.

The mechanism of spark alloying was investigated. The hypothesis of stream of the electrode by the mechanism of electrical explosion of wire was confirmed. The presence of aerosol particles in the non-carrier flow was detected, and their distribution with respect to dimensions was investigated. It was established that the basic mass of alloying material is transported in the form of particles < 0.1 microns. A study was made of the effect of the aerosol and the discharge parameters on the fractional composition of the aerosol. The effect of the aerosol on the alloying level of the epitaxial layers was discovered.

USSR

UDC 621.774.3

TSELIKOV, A. I., BONDARENKO, YE. S., POLUKHIN, P. I., and POTAPOV, I. N.,

"Development and Wide Introduction of New Technological Processes
and Tube-Rolling Mills With Helical Motion for the Production of Hot-Rolled
Tubes"

Moscow, Stal', No 12, 1972, pp 1107-1111

Abstract: Production of large-diameter tubes and equipment used during production processes are reviewed. The design and production of new mills capable of accepting material at a feeding angle of 14-15 or 15-17° has made Soviet production of tubes the most advanced in the world. Introduction of two-roll and three-roll mills will further increase the production of tubes while decreasing their cost. A schematic diagram of a two-roll mill is presented. Application of new technology at several metallurgical plants in the Urals region is discussed in broad terms. The emphasis is on increasing the feeding angles of the tube metal. Three-roll mills are planned for 1973, which will increase production effectiveness by 1.8-2.0 times. Mechanical properties of tubes produced at high feeding angles are discussed.

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USSR

UDC 621.771.28

POTAPOV, I. N., POLUKHIN, P. I., BONDARENKO, Ye. S., YAMPOL'SKIY, V. M.,
FINAGIN, P. M., and TARTAKOVSKIY, Ye. K.

"Creating High Productivity Cross-Screw Pipe Rolling Mills"

Plasticheskaya Deformatsiya Metallov i Splavov, Moscow, No 64, "Metallurgiya,"
1970, pp 163-171

Translation: Information is given on the designs of individual and group drives of mills, two- and three-roll working stands, and forward and rear mill tables. Industrial introduction of these designs made it possible to implement new rolling conditions which resulted in a significant rise in the productivity of pipe rolling machines and in improvement in the quality of sleeves and pipes. Five figures and 13 bibliographic entries.

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- 27 -

Acc. Nr:

AP0051937-

Ref. Code: UR 0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i
Meditsiny, 1970, Vol 69, Nr 2, pp 112-114

AMINO ACID COMPOSITION OF MYOSIN AND ACTINE IN THE MUSCLES OF
EXPERIMENTAL ANIMALS WITH HEREDITARY MYOPATHY

L. O. Badalyan, Ye. S. Bondarenko, Ye. I. Gusev, Yu. Ye. Lukoyanov, G. G. Revich,
P. A. Temin, Yu. D. Sharets

N. I. Pirogov II Moscow Medical Institute

Amino acid composition of myosin and actine was analyzed in 10 healthy, 12 sick and 12 heterozygous mice of the 129/RE line with hereditary myopathy. Increased leucin with isoleucin, valine, alanine and lowered tyrosine and histidine content was found in the amino acid spectrum of myosin in sick mice. In heterozygous animals higher valine and lowered tyrosine and histidine levels were recorded. In the amino acid composition of actine in the sick and heterozygous mice glycine was up and histidine — down.

REEL/FRA
19820420

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Acc. Nr.

AP0029113

Ref. Code: UR 0246

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhatrii, 1970,
Vol 70, Nr 1, pp 72-76.

CHANGED FERMENTATIVE ACTIVITY IN THE MUSCULAR
TISSUE IN PROGRESSIVE MUSCULAR DYSTROPHIA

L. O. Badalyan, E. D. Tamarkina, Ye. S. Bondarenko, L. V. Zakoshchikova

The activity of creatinphosphokinase, lactic de hydrogenase and malatdehydrogenase was studied directly in the affected muscle in 30 patients with different forms of progressive muscular dystrophy. The results of such studies displayed an increased enzymatic activity in the affected muscle and a tendency towards its decrease, as the severity of motor disorders grows. The maximum amount of enzymatic activity was seen during the first years following the appearance of clinical symptoms. In the subsequent periods the anzymatic activity dropped. A study of the normal relatives in such cases also displayed an increased enzymatic activity. The obtained data shows the dependency of the enzymatic activity from the type of hereditary transmission in progressive muscular dystrophy. The highest indices of enzymatic activity were seen in patients with a recessive x-chromosome type of transmission and less high in the autosome-recessive and autosome-dominant type. These results stress the expediency of determining the enzymatic activity in muscular tissues for the diagnostics and prognosis of progressive muscular dystrophy along with other methods of investigation.

REEL/FRAME

10000024

2 MB

USSR

UDC: 537.533.3

~~BONDARENKO, Yu. V.~~, BUDARNYKH, V. I., IL'IN, V. P., ISKOL'DSKIY, A. M., NESTERIKHIN, Yu. Ye., POPOVA, G. S., and SHESTAK, A. F.

"Electronic-Optical Converters in Forced Light Load Operation"

Novosibirsk, Avtometriya, No 6, 1971, pp 7-14

Abstract: Forced light load operation is defined as that mode of operation of the photocathode of an electronic-optical converter in which a photocurrent of high density is picked up in recording processes 10^{-9} - 10^{-11} s in duration. In this kind of operation the obtained images are markedly distorted. The function of this paper is to take a closer look at the basic effects tending to deteriorate the image quality through experiments, the purpose of which is to investigate the effect of the electric field near the photocathode and the space charge in causing this distortion. A diagram of the experimental equipment is given and the experimental procedure explained. Photographic samples of the image distortion are shown and the reasons for the defects clarified. The authors express their gratitude to B. A. Baryshev for his assistance in preparing the equipment, and to L. M. Diamant and I. N. Zaydel' for their comments.

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USSR

UDC 621.791.72.019:546.621

BONDAREV, A. A., VOROPAY, N. M., ISHCHENKO, A. Ya., RABKIN, D. M., Ye. O.
Paton Electric Welding Institute

"Influence of Technological Factors on Porosity of Seams in Aluminum, Produced by Cathode Ray Welding"

Kiev, Avtomaticheskaya Svarka, No 8, Aug 1972, pp 24-26.

Abstract: This work studies the influence of various technological factors on the porosity of seams produced by cathode ray welding of the alloys AMg6 and D20-1. The hydrogen content in the base metal was 0.86 and 0.23 cm³/100 g respectively. Experimental production batches of AMg6 with various hydrogen contents were also studied. It was found that seam porosity was determined by welding rate, spatial position of the joint, initial hydrogen content in the base and welding materials and method of material treatment before welding. Under identical welding conditions, series-produced AMg6 alloy is more inclined to pore formation than D20-1 alloy, a result of its higher content of hydrogen and intensive evaporation of magnesium. Porosity can be decreased or eliminated by removal of the surface film from the base metal and welding material, increasing the welding speed and decreasing the hydrogen content in the base metal.

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USSR

UDC 621.791.72:621.9-536.546.621

BONDAREV, A. A., VOROPAY, N. M., RABKIN, D. M., Ye. O. Paton Electric Welding
Institute, STEPANOV, V. F., POSTNIKOV, V. P., Moscow Oblast

"Cathode Ray Welding of Spherical Containers of Aluminum Alloys"

Kiev, Avtomaticheskaya Svarka, No 5, May 1972, pp 44-47

Abstract: The features of cathode ray welding of vacuum tight joints were studied as applicable to spherical containers of AMG6 and D20-1 aluminum alloys. Welded joints produced at the optimal welding modes showed no pores, cracks or other defects. The β phase was finely and evenly dispersed. In contrast to argon-arc welding, the near-seam zone had practically no areas of recrystallization with enlarged base-metal grains. The mechanical properties of joints produced by cathode ray welding were universally superior to those produced by argon-arc welding. The stability of the results of mechanical tests was high; the strength factor of the joints was greater than with argon-arc welding.

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USSR

UDC 621.791.72.011+621.791.001:699.715

BONDAREV, A. A., VOROPAY, N. M., Institute of Electric Welding im. Ye. O. Paton, AN UkrSSR

"Transverse Deformations During Cathode-Ray and Argon-Arc Welding of Butt Joints in AMg6 Alloy"

Kiev, Avtomaticheskaya Svarka, No 12, 1972, pp 31-33

Abstract: A comparative study is made of deformations produced by cathode-ray and argon-arc welding of AMg6 alloy as a function of metal thickness, welding rate, seam shape, and welding wire. Due to the low specific running energy, high heat concentration, small volume of the welding bath and minimum heating zone, transverse deformations produced by cathode-ray welding are two to four times less than those produced by argon-arc welding, using the optimal modes in both cases. With cathode-ray welding, the transverse shortening stabilizes 70-120 mm from the beginning of the seam, so that specimens for the study of this type of deformation can be selected three to four times shorter than those for argon-arc welding. One effective means of decreasing transverse shortening during cathode-ray welding of aluminum alloys is to increase the speed of the process to over 60 m/hr.

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USSR

UDC 621.791.85:669.715

RABKIN, D. M., VOROPAY, N. M., and BONDAREV, A. A., Institute of Electric Welding imeni Ye. O. Paton

"Special Features of Electron-Beam Welding of Aluminum Alloys"

Kiev, Avtomaticheskaya Svarka, No 2, Feb 71, pp 48-52

Abstract: A study was made of the characteristics of electron-beam welding of aluminum alloys as done on the U-3M machine using the SP-30 power supply. Also investigated were the effect of the process parameters on the type of alloy, the characteristics and structure of welds of typical aluminum alloys, and the development of optimal modes and techniques for the welding process. The specimens for the experimentation were plates made of ADO, AMg6, AMg6N, D20-1, ATsM, and V95 alloys. The parameters of each specimen are given in a table. The V95 specimens were welded in their annealed state after tempering and artificial aging; the ADO, AMg6, and D20-1 specimens were welded with a wire of the same chemical composition as the original metal; and both the V95 and ATsM alloys were welded with no additives. The test results indicate that electron-beam welding results in high structural strength and that the strength of the weld increases with increasing welding speed.

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1/2 024

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--DEPENDENCE OF THE PHYSICOMECHANICAL PROPERTIES OF SYNTHETIC FIBERS
ON THE DESIGN OF THE TAKE UP SPREADER MECHANISM OF A PP 1000I MACHINE
AUTHOR--(03)--STRELTSES, V.YA., MOISEYEV, G.K., BONDAREV, A.A.

COUNTRY OF INFO--USSR

SOURCE--KHIM, VOLOKNA 1970, (2), 34-6

B

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--CAPRONE, TEXTILE INDUSTRY MACHINERY, SYNTHETIC FIBER, PLASTIC
MECHANICAL PROPERTY/(U)PP1000I TEXTILE MACHINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0097

STEP NO--UR/0183/70/000/002/0034/0036

CIRC ACCESSION NO--AP0132390

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132390

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. ANAL. STUDIES OF THE TAKE UP
SPREADER MECHANISM INDICATED THAT IT AFFECTED KAPRON YARN THICKNESS AND
TENSION AT EQUAL INTERVALS ON THE BOBBIN. A COMPENSATING DEVICE WAS
PROPOSED TO ELIMINATE THE EFFECTS OF THE SPREADER.

UNCLASSIFIED

USSR

UDC 616.981.51-036.21(470.65)

BONDAREV, A. I., TONKONozHENKO, A. P., TSEGOYEVA, V. K., and BURBANOVA, Ye. I.,
Severo-Osetinsk Republican Sanitary Epidemiological Station

"Natural Foci of Anthrax in Northern Osetia"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 10, Oct 70,
pp 77-79

Abstract: Anthrax is widespread in the Severo-Osetinsk Autonomous Republic. No settlement in the region is free of this disease. Between 1958 and 1968, there were 239 anthrax cases among cattle and 59 cases among human beings. About 77 percent of these persons had had contact with infected farm animals. In 12 percent of the cases, the source of infection was not established, a fact which indicated that rodents and ectoparasites might carry and transmit the anthrax bacillus. In the present study, 802 rodents and 5,775 Ixodes and Gamasid ticks were examined for the presence of anthrax pathogen. Biotests were performed by injecting emulsions of the internal organs of the rodents and suspensions of the ticks into white mice. Culture media were inoculated with this material and incubated. Studies were made of the internal organs of the rodents and subjected to fluorescence microscopy. The results of all of the tests were negative. Further studies are necessary to establish

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USSR

BONDAREV, A. I., et al, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii,
Vol 10, Oct 70, pp 77-79

definitely the epidemiological and epizootiological significance of anthrax
infections which occur naturally among rodents and ectoparasites.

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USSR

UDC 621.375.6

B
BONDAREV, A. S.

"Effect of Space Charge on Interaction Processes in a Superhigh-Frequency Electrostatic Quadruple Spiral Amplifier"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Engineering. Scientific and Technical Collection. Superhigh-Frequency Electronics), 1970, vyp. 5, pp 105-113 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8 D255)

Translation: This article contains the solution of the equations of motion of a cylindrical electron flux in a longitudinal magnetic field and the electrostatic field of a quadruple spiral in the form of coupled transverse waves. The solutions consider the space charge and permit establishment of the dependence of the maximum allowable amplification coefficients from the point of view of beam stability on the space charge parameter with arbitrary static maladjustment of the synchronism conditions. The problem was solved in the linear approximation without considering variation of the constant component of the arbitrary electron velocity.

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USSR

UDC 669.715:669.046.54/55

YAKOVLEV, V. I., BALAKHONTSEV, G. A., BONDAREV, B. I., SHVETSCV, I. V., and
CHEREPOK, G. V.

"Effect of the Refining and Casting Technology on the Quality of Ingots and
Semifinished Goods"

Moscow, Tsvetnyye Metally, No 1, Jan 74, pp 64-67

Abstract: A comparative study of the properties of metals produced by different refining methods was carried out by processing statistical data on the results of the macrocontrol of ingot templets. It is shown that traditional refining methods provides nearly the same purity level in H content and other inclusions. The contradiction of this finding with the results of other researchers is explained. The effect of the casting technology on the purity of the metal was investigated on ingots of D1 alloy, 540 mm in diam. The results show a linear dependence of porosity on the H content. The volume of porosity in the ingots determines their disposition to stratification under deformation. To retain the fine-crystalline structure of the ingot and to eliminate stratification in stamping, the use of evacuation in the mixer has to match the modification of the melt. Five figures, one table, five bibliographic references.
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USSR

UDC 669.2:621.746

MOLCHANOV, M. D., ~~ROMDAREV, B. I.~~, IVANOV, V. S., KALYAPIN, A. S., PONOMARENKO, A. M., and ANDRONOV, A. N.

"Development and Industrial Application of FL10 Flux"

Tsvetnyye Metally, No 3, Mar 71, pp 70-71

Abstract: FL10 flux contains no compounds which react with such alloying elements as zirconium and the rare earth elements, and therefore can be recommended for processing of all magnesium alloys without limitation. The cost of FL10 is 16 rubles less than the cost of FL5 flux.

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Foundry

USSR

UDC 669.721

BONDAREV, B. I., and MISHCHENKO, V. D.

"Electromagnetic Transport During Casting of Magnesium Alloys"

Moscow, Tsvetnyye Metally, No 4, Apr 72, pp 65-66

Abstract: Problems of transporting magnesium alloys and the effect of transporting on properties of the alloys were investigated. Application of a variant of the KEMN-3M electromagnetic conduction pump made it possible to cast without additional start devices by changing the pump discharge from zero to the maximum value. The introduction of the pump with a self-starting device will make possible complete automation of the casting process with control from a central desk. One illustration, one table, four bibliographic references.

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USSR

UDC Δ62-531.7

BONDAREV, B. I., MURIN, B. P., and SOLOV'YEV, L. YU.

"The Operational Effectiveness of a System for Suppressing Coherent Phase Vibrations"

Pribery 1 Tekh Eksper, No 4, 1971, pp 29-31

Abstract: The authors modeled the longitudinal motion of protons in a linear accelerator on a computer; they used the Monte-Carlo method to investigate change in the phase volume produced by errors in preparing and assembling the accelerating structure and by fluctuations in the accelerating fields. They showed that the effective phase volume of a bunch can be decreased by using the system for suppressing the coherent vibrations of particles. Their results confirmed that such a system can be used in linear proton accelerators to solve at least two problems. The first problem occurs in high-energy accelerators where in order for the particles to reach a certain energy (approximately 100 MeV) the authors suggest converting to a smaller wavelength for the accelerating field; in such a case the suppression system allowed them to decrease the effective phase width of the bunch at the input to the short-wave part of the accelerator, to improve the conditions for capture of the particles, and to diminish their losses. The second problem

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USSR

BONDAREV, B. I., et al., Priory 1 Tekh Eksper, No 4, 1971, pp 29-31

involves using this suppression system at the output of the linear accelerators for the purpose of improving the energy spectrum of the beam. The article contains 2 figures and 2 bibliographic entries.

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USSR

UDC 669.721.018.9

BONDAREV, B. I., GUR'YEV, I. I.

"Some Characteristics of Manufactured Series and New Deformable Magnesium Alloys"

Metallized. splavov legkikh met. -- V sb. (Physical Metallurgy of Alloys of Light Metals -- collection of works), Moscow, Nauka Press, 1970, pp 181-185 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G225)

Translation: The effect of admixtures on the structure and properties of MA8-1, MA8, and VM65-1 alloys is analyzed. The quantitative law determining the grain size and technological nature of the ingot during its deformation is derived. The possibility of improving the corrosive resistance and mechanical properties of the intermediate products manufactured from these alloys is established. There are 4 illustrations and 1 table.

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USSR

UDC 669.71.411

CHULKOV, V. S., MIKHEICHEV, L. A., BONDAREV, B. I.

"Increasing the Quality of Ingots in Electric-Flux Refining"

Tekhnol. Legkikh Splavov. Nauchno-tekhn. Byul. VILSa [The Technology of Light Alloys, Scientific and Technical Bulletin of the All-Union Institute of Light Alloys], 1970, No. 6, pp. 12-14. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G166 by S. Krivonosova).

Translation: The structure, presence of flux corrosion, contamination according to technological tests, gas content, density, and mechanical properties of ingots of type AMg6 alloy produced by electric flux refining (EFR) with various flux bath applications are studied. EFR in the crystallizer, in a container, and with casting through glass cloth were compared. The testing of specimens in a fog chamber with 96-100% relative humidity at 25° showed that there was no flux corrosion. Following the various versions of purification, there were practically no differences in the contents of the components of the alloy (Mg, Si, Fe). The differences in level of contamination with oxide films were not great. However, the alloy produced by EFR was purer than an alloy poured through glass cloth.

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USSR

CHULKOV, V. S., et al, Legkikh Splavov. Nauchno-tekhn. Byul. VIISa, 1970, No 6, pp 12-14

The gas content was lowest with refining in the crystallizer, highest with casting through glass cloth. Ingots produced by EFR had increased density and impact toughness. Refining in the crystallizer creates favorable conditions for delivery of the purified alloy to the crystallization zone. When the flux is applied in a separate container, repeated usage of the flux and pouring of ingots of any configuration are possible. 5 figs; 3 tables.

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USSR

UDC 669.2:621.746

MOLCHANOV, M. D., BONDAREV, B. I., IVANOV, V. S., KALYAPIN, A. S., PONOMARENKO, A. M., and ANDRONOV, A. N.

"Development and Industrial Application of FL10 Flux"

Tsvetnyye Metally, No 3, Mar 71, pp 70-71

Abstract: FL10 flux contains no compounds which react with such alloying elements as zirconium and the rare earth elements, and therefore can be recommended for processing of all magnesium alloys without limitation. The cost of FL10 is 16 rubles less than the cost of FL5 flux.

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USSR

UDC 669.721.018.26

BONDAREV, B. I., and GUR'YEV, I. I.

"Special Features of the Production of Serial and New Deformable Magnesium Alloys"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970, pp 181-185, resume

Translation: The effects of admixtures on the structure and properties of the MA8-1, MA8, and VM65-1 alloys are analyzed. A quantitative regularity was established which specifies the grain size and technological condition of the ingot by its deformation. The possibility was established for increasing the corrosion resistance and improving the mechanical properties of intermediate products. Four figures, one table.

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USSR

Magnesium

BONDAROV, B. I., FUNKOV, V. E., ANDRUSOV, A. N., and BALKOVA, G. I.

"Special Features in the Technology of Introducing Zirconium into Magnesium Alloys"

Moscow, *Sovetskoye Metallo*, No 6, Jan 78, p 50

Abstract: One of the basic difficulties in the industrial production of magnesium alloys containing zirconium lies in the means for introducing the zirconium into the melt. Three industrial introduction processes are cited: 1) Introduction of zirconium from calcium fluorozirconate; 2) Introduction from a slag containing 60% K_2ZrF_6 , 20% $LiCl$, and 20% CaF_2 ; and 3) Introduction from binary and ternary alloys. The principal disadvantages of the first two processes are outlined. It was established, during experiments and industrial fusion of VMF-1 alloy in reflecting furnaces of 12 ton capacity, that the best results on zirconium assimilation were obtained with a binary alloy containing 40-50% Zr. A brief description of the procedure is given. A comparison of results on zirconium assimilation obtained by the above described method and others shows that the use of binary Mg-Zr alloy reduces the irreversible metal losses in the melt by 1.5 times.

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1/2 027

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--INOCULATING DEFORMABLE MAGNESIUM ALLOYS -U-

AUTHOR--(04)-DETKOVA, D.V., BONDAREV, B.I., IVANOV, V.S., ANDRONOV, A.N.

COUNTRY OF INFO--USSR

SOURCE--TSVET. METAL. 1970, 43(4), 79-80

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--MAGNESIUM ALLOY, CRYSTAL STRUCTURE, ZINC ALLOY, ALUMINUM
ALLOY, MANGANESE ALLOY, SILICON ALLOY, ZIRCONIUM ALLOY, BORON ALLOY,
INOCULATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0333

STEP NO--UR/0136/70/043/004/0079/0080

CIRC ACCESSION NO--AP0137438

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137438

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHARACTERISTIC FEATURES OF THE INOCULATION PROCESS OF DEFORMABLE ALLOYS OF THE MG-MN AND MG-AL-AN-MN SYSTEMS, USE OF C CONTG. ADDITIVES AS INOCULANTS, AND THE INFLUENCE OF SI, ZR, AND B ON THE GRAIN SIZE ARE DISCUSSED.

UNCLASSIFIED

USSR

BONDAREV, B. V.

"The Principle of Averaging for Stochastic Differential Equations"

Teoriya sluchayn. protsessov [Theory of Random Processes], No 1, Kiev, Nauk. Dumka Press, 1973, pp 22-27 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V93 by the author)

Translation: The principle of averaging is established for a system of stochastic differential equations. The assumption is made that not only slow, but also rapid motion is a process of general form. The limiting theory is applied to check the hypothesis of the presence of a rapid component in the drift factor for slow motion.

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USSR

UDC 612.432+612.543].014.45

SINTSINA, A. D., and BONDAREV, G. I., Institute of the Hygiene of Water Transport, Moscow

"Round-the Clock Combined Effect of Low-Frequency Vibration and Noise on the Function of the Hypophysis-Adrenal Cortex System"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, Jul 70, pp 42-44

Abstract: Adaptation of the organism to the action of various unfavorable factors in the environment is accompanied by a change in the state of the hypophysis-adrenal cortex system. The functional state of the adrenal cortex under the influence of the noise and vibration encountered in certain jobs was studied using 240 white rats. All-day exposure to vibrations (10-Hz, 0.02 and 0.04 mm amplitude; or 6 Hz 0.03 mm amplitude), together with a noise level of 75-80 db for 12-18 days produced a drop in the functional state of the adrenal cortex, manifested as a reduction in the corticosterone content in blood plasma. Exposure to a noise level of 75-80 db alone has a similar effect, but this effect occurs later than that under the combined action of noise and vibration. The effect of vibration alone requires further study.

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USSR

SINTISINA, A. D. and BONDAREV, G. I., Gigiyena Truda i Professional'nyye
Zabolevaniya, No 7, Jul 70, pp 42-44

On exposure to vibration at 10 Hz and 0.04 mm amplitude, together with a noise
level of 80 db, a tendency toward reduction in ACTH production of the hypo-
physis was observed.

2/2

Public Health, Hygiene and Sanitation

USSR

UDC 612.432+612.453].014.45

BONDAREV, G. I., Candidate of Medical Sciences, SINITSINA, A. D., and YEFIMOV, I. N.
Scientific Research Institute of Water Transport Hygiene

"The Combined Effect of Low-Frequency Vibration and Noise on the Hypophyseal
Adrenocortical System"

Moscow, Gigiyena i Sanitariya, No 5, 1970, pp 106-108

Abstract: The effect of vibration (10 and 20 hz) combined with noise (80 and 84 db) on the weight of the adrenals and the blood corticosterone level of rats was studied after exposure for 8 hours daily for 20 days. The weight of the adrenals remained unchanged throughout the experiment. The corticosterone level tended to increase on the 7th and 17th days of exposure to vibration and noise, whereas noise alone produced the same changes on the 17th and 21st days. But on the first day after the experiment, the corticosterone level fell sharply and on the second day it was the same as in controls. The shifts appeared earlier when higher frequency vibration was applied, i.e., the initial increase in corticosterone content began to decrease on the 12th day, and by the 20th day was significantly below the control. Injection of ACTH on the 20th day increased the secretion of corticosterone two- to three-fold. Thus, the combined action of vibration and noise lowered the blood corticosterone level and decreased the adrenocorticotrophic activity of the hypophysis.

1/1

BONDAREV, L. M.
BONDAREV, L. M.

PLANNING AND CONTROL OF SCIENTIFIC RESEARCH

[Article] by L. M. Bondarev, Moscow Scientific-Research Institute of Tuberculosis of the USSR Ministry of Health, Moscow, Sovetskaya Meditsina, No 6, 1973, pp 132-137, UDC 0018:65.012.21

JPRS 60427
31 October 1973

In recent years, new effective methods of planning and control of scientific-research work have been created (M. M. Lopukhin, K. L. Gortan and co-authors), capable of sharply increasing the effectiveness of scientific-research work because of more intensive forms of resources allocated for scientific research. However, the use of these methods requires significant expenditures of capital and highly qualified specialists in the field of optimization of methods of planning and control of scientific-research work, which presents a barrier difficult to overcome for republic scientific public-health institutions, the main task of which consists in carrying out developmental studies (by specialty) and then introducing them to practical health-care institutions.

The present's work objective is to present an exposition of an effective system of planning and control of scientific-research work that would be accessible to every institute and responsive to modern requirements for intensive utilization of resources allocated for the solution of republic problems.

The most acceptable for the head of a scientific-research institute is that system of planning and control of scientific-research work which provides continuity and effectiveness to the solution of problems.¹ The real contribution of this

1. The report was heard and approved by the presidium of the Scientific Medical Council of the USSR Ministry of Health on 24 February 1972.
2. The problem is one of lack of correspondence between available and necessary condition of a studied system (institute).

- 1 -

(1 - USSR - C)

USSR

UDC 616.981.553-071

KRYUKOVA, Z. V., SUK, I. S., and BONDAREV, L. S., Chair of Infectious Diseases,
Donetsk Medical Institute

"Clinical Symptoms of Botulism"

Kiev, Vrachebnoye Delo, No 7, Jul 70, pp 130-133

Abstract: A discussion is presented of 37 cases of botulism observed between 1954 and 1968 caused by consumption of home-canned foods, primarily pork products. In most patients the initial dyspepsia was quickly followed by general weakness, headache, nausea, dryness in the mouth, and constipation. These symptoms were generally associated with neurologic disturbances (mydriasis, diplopia, anisocoria, decreased visual acuity, nystagmus, absence of or decrease in pharyngeal reflex, difficulty in swallowing, speech disorders), cardiovascular disturbances (muffling of heart sounds and, less commonly, bradycardia, arterial hypotension, myocarditis), and elevated temperature (varying with the severity of the course of the disease). Through comprehensive therapy, with emphasis on the use of antitoxin serum, 34 of the 37 patients recovered.

1/1

Acc. Nr.: **AP0030923**

Ref. Code: UR 0475

PRIMARY SOURCE: *Vrachebnoye Delo*, 1970, Nr 1, pp 122-123

**ORNITHINECARBOMOYLTRANSFERASE IN INFECTIOUS HEPATITIS
AND OBSTRUCTIVE JAUNDICE**

L. S. Bondarev and I. S. Suk (Donetsk)

Results indicate that in angiocholecystitis blood serum ornithine-carbomoyltransferase remained within normal limits, in mechanical jaundice caused by tumors of the pancreato-duodenal region it remained normal or slightly increased in two-thirds of patients and in infectious hepatitis it reflected the severity of the disease.

It is suggested that a study of the blood serum OCT content may be used as an adjunctive test in the differential diagnosis of infectious hepatitis and mechanical jaundice due to malignant tumors.

mk

REEL/FRAME

19690942

Acc. Nr.: **AP0030923**

Ref. Code: UR 0475

PRIMARY SOURCE: *B* Vrachebnoye Delo, 1970, Nr 1, pp 122-123

ORNITHINECARBOMOYLTRANSFERASE IN INFECTIOUS HEPATITIS
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L. S. Bondarenko and I. S. Suk (Donetsk)

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It is suggested that a study of the blood serum OCT content may be used as an adjunctive test in the differential diagnosis of infectious hepatitis and mechanical jaundice due to malignant tumors.

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REEL/FRAME

19690942

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1/3 021 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--MECHANISMS OF QUENCHING THE FLUORESCENCE OF SOME PORPHYRINS -U-

AUTHOR-(03)-BONDAREV, S.L., GURINOVICH, G.P., CHERNIKOV, V.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(3), 641-4

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--FLUORESCENCE QUENCHING, PORPHYRIN, ZINC COMPLEX, QUINONE,
NITROBENZENE, ELECTRON TRIPLET STATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3006/0951

STEP NO--UR/0048/70/034/003/0641/0644

CIRC ACCESSION NO--AP0134670

UNCLASSIFIED

2/3 021

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0134670

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. QUENCHING OF THE FLUORESCENCE OF MESOPORPHYRIN IX (I) AND ITS ZN COMPLEX BY BENZOQUINONE (II), M DINITROBENZENE (III), PHNHNH SUB2 (IV), AND MEI IN PHME SOLNS., PREVIOUSLY DEAERATED AT 2 TIMES 10 PRIME NEGATIVES TORR, WAS STUDIED. SINCE AT LOW CONCNS. (MAX. 10 PRIME NETATIVE2 M) OF III AND FOR HIGH CONCNS. OF THE OTHER QUENCHING AGENTS UNDER STUDY, NO CHANGES IN THE ABSORPTION AND FLUORESCENCE SPECTRA WERE OBSD., THE QUANTUM YIELDS OF FLUORESCENCE WERE ESTD. BY SIMULTANEOUSLY MEASURING THE FLUORESCENCE OF THE PORPHYRIN SOLNS. BOTH ALONE AN/IN THE PRESENCE OF A QUENCHING AGENT. THE CALCD. DEACTIVATION CONSTS. OF THE TRIPLET AND SINGLET STATES AS WELL AS THE QUANTUM YIELDS FOR THE FLUORESCENCE AND TRIPLET FORMATION ARE TABULATED. THE OBTAINED QUENCHING CONSTS., PARTICULARLY IN THE CASE OF I, EXCEEDED THE TRIPLET STATE DEACTIVATION CONSTS. BY SEVERAL ORDERS OF MAGNITUDE, THUS INDICATING HIGHER EFFICIENCY OF THE QUENCHING LESS THAN 0.1 SEC. 2,H SUB2 NC SUB6 H SUB4 COME IN ET SUB2 D ISOPENTANTE, ETOH (5:5:2) SHOWED AN EMISSION AT 445 NM AFTER EXCITATION AT 350 NM, DUE TO A T SUBPIPI SEXTILE YIELDS TRANSITION. CUIF COLLISIONS IN THE SINGLET STATES AS COMPARED WITH THE TRIPLET STATES. IN QUENCHING THE FLUORESCENCE OF ZN-I BY II AND III, THE CONSTS. DIFFERED MUCH LESS THAN IN THE CASE OF METAL FREE I. THE QUENCHING OF THE TRIPLET TRIPLET ABSORPTION IN I BY IV DID NOT FOLLOW THE EXPONENTIAL LAW DUE TO THE FORMATION OF A PHOTOREDUCED STRUCTURE. IN QUEHCHING THE FLUORESCENCE OF I BY III, THE QUANTUM YIELDS OF THE FLUORESCENCE AND TRIPLET FORMATION WERE NOT IDENTICAL.

UNCLASSIFIED

3/3 021

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0134670

ABSTRACT/EXTRACT--A COMPLEX OF THE EXCITED MOL. WITH THE QUENCHING AGENT WAS PRESUMABLY FORMED, AND THE PROBABILITY OF ITS TRANSITIONS DIFFERED FROM THOSE OF THE STARTING PORPHYRIN MOL. THE TENDENCY OF I TO CREATE A COMPLEX WITH III WAS OBSD. IN THE NON EXCITED STATE. THYS, ON ADDN. OF III AT A CONC. GREATER THAN 2 TIMES 10 PRIME NEGATIVE2 MOLE-L. TO A SOLN. OF I IN PHME, THE ABSORPTION SPECTRUM CHANGED; ITS ISOBESTIC POINTS AT 486, 524, AND 562 NM SUGGESTED THE SIMULTANEOUS PRESENCE OF 2 KINDS OF ABSORBING CENTERS, I.E., FREE I AND A I-III COMPLEX. THE COMPLEX FORMATION IN THE GROUND STATE WAS ALSO INDICATED BY DEVIATIONS FROM THE STERN VOLMER EQUATION AT THE ABOVE CONCNS. OF III. EFFICIENT FORMATION OF A ZN,I,III COMPLEX EVEN IN THE TRIPLET STATE WAS PRESUMED.
FACILITY: INST. FIZ., MINSK, USSR.

UNCLASSIFIED

USSR

UDC: 681.333

SULIMA, L. A., BONDAREV, V. B., MIROLYUBSKIY, V. M., REDCHENKO, V. I.,
KAYETKIN, R. A.

"A Device for Modeling a Neuron"

Moscow, Otkrytiya, Izobretneiia, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 48, Dec 73, Author's Certificate No 409245, Division G, filed 24 Apr 72,
published 30 Nov 73, p 121

Translation: This Author's Certificate introduces a device for modeling a neuron. The device contains a power supply and integrators. As a distinguishing feature of the patent, the device is simplified by adding a balanced differential amplifier covered by negative and positive feedback loops. Connected to the first input of the amplifier are integrators and a scaling resistor unit and also switching elements whose controlling inputs are connected to the power supply. The first output of the balanced differential amplifier is connected to the output of the first switching element, while the second output of the balanced differential amplifier is connected to the output of the second switching element, which is connected in turn to the first switching element, to the zero potential line, and to the second input of the balanced differential amplifier.

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1/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--THERMODYNAMIC PARAMETERS OF THE DISSOLUTION OF
2.5, DIMETHOXYTETRAHYDROFURAN AND 2,3, DICHLOROBUTANE ISOMERS STUDIED BY
AUTHOR--(03)-SHCHERBINA, T.M., BONDAREV, V.B., VITT, S.V.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (4), 951-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--THERMODYNAMIC CHARACTERISTIC, FURAN, CHLORINATED ALIPHATIC
COMPOUND, BUTANE, ISOMER, GAS CHROMATOGRAPHY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/0989 STEP NO--UR/0062/70/000/004/0951/0953
CIRC ACCESSION NO--AP0138017
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138017

ABSTRACT/EXTRACT--(U) GP-5- ABSTRACT. THE EXCESS THERMODYNAMIC PARAMETERS WERE TABULATED FOR THE PROCESS OF DISSOLUTION OF ISOMERS OF 2,5 DIMETHOXYTETRAHYDROFURAN AND 2,3 DICHLOROBUTANE ON A VARIETY OF CHROMATOGRAPHIC IMMOBILE PHASE COMPS. FROM THE DATA ON ENTHALPY AND FREE ENERGY OF THE PROCESSES, IT WAS SUGGESTED THAT THE SPECIFICITY OF A PHASE IN VAPOR CHROMATOG. BE DEFINED OR EVALUATED BY THE DIFFERENCES IN THE CHANGE OF FREE ENERGY $\Delta \Delta F$ IN THE INTERACTION OF THE ISOMERIC FORMS OF THE SUBSTRATE. THE VAPOR D. OF THE ISOMERS OF THE SUBSTRATE WAS DETD. DIRECTLY BY INTRODUCTION OF A SPECIMEN OF THE SUBSTANCE INTO A THERMOSTATED GLASS TUBE FILLED WITH GLASS SPHERES SO THAT THE CARRIER GAS WAS SATD. BY THE VAPOR OF THE SUBSTRATE, THEN TRANSFERRED INTO THE CALIBRATED VOLUME WHICH WAS MAINTAINED AT A SOMEWHAT HIGHER TEMP. BY TURNING THE VALVE THE SUBSTANCE WAS TRANSFERRED INTO THE CHROMATOGRAPHIC COLUMN AND THE VAPOR D. DETD. FROM PEAK AREA ON THE PLOT OF ITS EXIT FROM THE COLUMN. FACILITY: INST. ELEMENTOORG. SOEDIN, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 678.7:66.018.86.01:536.2

BONDAREV, V. D., BRISKMAN, B. A., and SABINA, V. P.

"Influence of γ -Radiation on the Thermal Conductivity and Density of Some Polymers"

Moscow, Plasticheskiye Massy, 7, 1973, pp 7-10

Abstract: A study was made of the relationship of the thermal conductivity coefficient λ and the density ρ to temperature and γ -radiation for both crystalline polymers (polyethylene and fluorlon-4) and amorphous polymers (polystyrene and polymethylmetacrylate). For polyethylene at 30°C λ decreased by 40% and at 150°C it increased by 46% for rather low levels of radiation; it did not change for doses in the range 2000-11000 Mrads. The density increased only 1.2%. For fluorlon 4 λ did not change significantly with temperature. The value of λ decreased slightly with irradiation. The behavior of ρ was a function of the crystallinity. For polystyrene λ increased by 24% in the temperature range 16-85°C and practically did not change with irradiation. For polymethylmetacrylate, λ increased by about 25% in the temperature range 18-98°C and practically did not change with irradiation. Possible reasons and implications of these values are discussed.

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1/3 016
UNCLASSIFIED
TITLE--BRONCHOLOGICAL INVESTIGATIONS UNDER NARCOSIS -U- PROCESSING DATE--27NOV70
AUTHOR--(03)-BODAREV, V.KH., DEYATERIKOV, A.I., LEVSHANKOV, A.I.
COUNTRY OF INFO--USSR
SOURCE--VOYENNO-MEDITSINSKIY ZHURNAL, NO 3, 1970, PP 45-49
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RESPIRATORY SYSTEM DISEASE, TUBERCULOSIS, THORACIC SURGERY,
MEDICAL EXAMINATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/0675 STEP NO--UR/0177/70/000/003/0045/0049
CIRC ACCESSION NO--AP0134424
UNCLASSIFIED

2/3 016

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134424

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SIDE APPLICATION OF BRONCHOLOGICAL INVESTIGATIONS IN DISEASES OF THE LUNGS, AND ESPECIALLY IN TUBERCULOSIS, BECAME POSSIBLE THANKS TO THE WORK OF A. N. VOZNESENSKIY, A. A. LAPINA, G. I. LUKOMSKIY, V. V. PUCHKOV, L. YE. REBANE, V. F. UNDRITS, A. ALTYPARMAKOV AND MANY OTHERS. THE DEVELOPMENT OF THORACIC SURGERY, THE IMPROVEMENT OF THE APPARATUS AND INSTRUMENTATION, ANESTHESIA AND PROCEDURES OF BRONCHOLOGICAL INVESTIGATIONS, AND ALSO THE APPLICATION OF NEW CONTRAST SUBSTANCES ON A BACKGROUND OF EFFECTIVE ANTIBACTERIAL TREATMENT WITH MODERN ANTIBIOTICS AND CHEMICALS HAVE MADE THOSE INVESTIGATIONS PRACTICALLY WITHOUT DANGER. IN A NUMBER OF PULMONARY DISEASES BRONCHOSCOPY HAS BECOME OBLIGATORY. EXAMINATION OF THE TRACHEA AND LARGE BRONCHI, SONDING OF THE SEGMENTARY AND SUBSEGMENTARY BRONCHI, ASPIRATION OF THEIR CONTENTS TO DETERMINE THE MICROFLORA AND STUDY OF THE CELLULAR COMPOSITION (CATHETERBIOPSY), AND SELECTIVE CONTRASTING OF THE BRONCHI, ALL THESE MEASURES PERMIT CONSIDERABLY FACILITATING AND ACCELERATING DIFFERENTIAL DIAGNOSIS, WHICH IS ESPECIALLY IMPORTANT FOR THE RECOGNITION OF TUMEROUS AND SUPPURATIVE PROCESSES, TUBERCULOSIS, AND FUNGUS AFFECTIONS (V. P. FILIPPOV, YE. D. TIMASHEVA, F. A. ASTRAKHANTSEV, AND OTHERS. WE HAVE AT OUR DISPOSAL DATA ON THE BRONCHOLOGICAL INVESTIGATIONS OF A LARGE GROUP OF PATIENTS. THEY WERE CONDUCTED BY US AS AN INHERENT ELEMENT OF PRE OPERATIVE EXAMINATION AND ALSO IN ALL FORMS OF PULMONARY TUBERCULOSIS WITH DEGENERATION OR SUSPICION OF TUBERCULOSIS OF THE BRONCHI, AND IN THE DIFFERENTIAL DIAGNOSIS OF VARIOUS PULMONARY DISEASES.

UNCLASSIFIED

3/3 016

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134424

ABSTRACT/EXTRACT--IN THE PRESENT REPORT WE WILL DEAL ONLY WITH
INVESTIGATIONS CONDUCTED IN PREPARATION FOR LUNG RESECTION.

UNCLASSIFIED

UDC 621.357.7:669.387:669.3-416

USSR

GOLOVINA, YE. S., KOCHEROVA, A. V., KOROTKOVA, T. S., BUVHINSKAYA, A. V.,
BONDAREV, V. V., and MALININA, I. G., State Scientific Studies and Design
Institute for Alloys and the Processing of Light Metals

"Electrochemical Process for the Treatment of the Surface a Copper Foil"

Author's Certificate No 338558, filed 16 Jul 70, published 9 Jun 72 (from
Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L299P)

Translation: An electrochemical process is patented for the treatment of the surface of copper foil during the preparation of foil-containing dielectrics. This includes the galvanic deposition on the surface of a layer of copper-cuprous oxide from a copper plating electrode. It is improved in that in order to increase the strength of the bond between the foil and the dielectric, the surface is additionally treated cathodically in a solution containing 10-70 g/liter of an alkali metal dichromate. For example, on the surface of a copper foil a microbuffing layer of copper oxide is deposited galvanically from a solution containing in g/liter: CuSO_4 , 100; H_2SO_4 , 75; NaCl , 0.058; and gelatin; 0.050 - 1.000. The process is performed using a D_k of 8 - 10 amps/dm², a temperature of 20 - 23°C for 0.5 - 1.0 minutes. The anode is lead. After 1/2

USSR

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GOLOVINA, YE. S., et al., Author's Certificate No 338558, filed 16 Jul 70,
published 9 Jun 72

rinsing with running the surface of the foil is supplementarily treated
cathodically in a 7% solution of potassium dichromate at a D_k of 1 - 2 amps/dm²
and a temperature of 20° for 30 seconds. Then the foil is washed in running
water and dried carefully, either by hot air or in a thermostat of 60 - 70°.

2/2

- 19 -

USSR

UDC: 669.15'26'24'28'3-194:669'14.018.821

PETROVA, V. S., FROLOV, A. V., BATRAKOV, V. P., ~~ELLIMONOVA~~, I. A., BELOUS, V. Ya., NIKISHOV, A. S., BONDAREV, V. V., PODOL'SKIY, M. L.

"Stainless Steel"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztzy, Tovarnyye Znaki, No 12, Apr 72, Author's Certificate No 334273, Division C, filed 2 Sep 68, published 30 Mar 72, p 104

Translation: This Author's Certificate introduces: 1. A stainless steel which contains carbon, chromium, nickel, molybdenum, copper and iron. As a distinguishing feature of the patent, mechanical properties are improved by taking the components in the following proportions in percent: carbon--0.03-0.1; chromium--10.05-11.9; nickel--3.3-4.0; molybdenum--2.3-3.6; copper--1.0-2.0; manganese--less than 0.6; silicon--less than 0.8; the remainder iron; and 2. a modification of this steel distinguished by the fact that the chromium:nickel ratio is 2.8-3.8.

1/1

USSR

UDC: 621.791.763.1:669.295:621.357.7

BONDAREV, V. V. Candidate of Technical Sciences, and SHINYAYEV, A. Ya.,
Doctor of Technical Sciences

"Spot Welding Titanium Ground Contacts"

Moscow, Svarochnoye proizvodstvo, No 5, 1971, p 34

Abstract: The authors present data on spot welding grounding contacts made from titanium and its alloys with various types of electroplated coatings. The results show that spot welding produces a reliable electric contact between titanium and radio parts where the titanium ground contacts are first electroplated with subsequent soldering to them of various parts and conductors using low-temperature solders. Original article: one table, one figure, and three bibliographic entries.

1/1

- 77 -

1/2 022
TITLE--EFFECT OF AN ALCOHOL ROSIN FLUX ON THE CORROSION RESISTANCE OF
CONDUCTORS -U-
AUTHOR--BONDAREV, V.V.
COUNTRY OF INFO--USSR
SOURCE--TR., GDS. NAUCH.-ISSLED. PROEKT. INST. SPLAVOV OBRAB. ISVET. METAL
1970, NO. 31, 37-40
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--COPPER, ALCOHOL, ROSIN, SILVER, ELECTRIC CONDUCTOR, CORROSION
RATE, CORROSION RESISTANT COATING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/0579
CIRC ACCESSION NO--AT0134344
STEP NO--UR/0000/70/000/031/0037/0040
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0134344

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE NATURE AND CORROSIVE EFFECT OF THE GREEN SUBSTANCE FORMED ON CU CONDUCTORS AND THOSE PLATED WITH AG AFTER THEIR SOLDERING BY USING ALC. ROSIN FLUX WERE INVESTIGATED. THE GREEN OF THE CONDUCTORS WAS DUE TO THE CAPILLARY INFILTRATION OF A FLUX UNDER THE INSULATION AND TO THE FORMATION OF GREEN COMPLEX COMPS. OF CU OXIDES WITH ABIETIC ACID, ONE OF THE ROSIN COMPONENTS. THESE COMPS. DO NOT WORSEN THE CORROSION PROPERTIES OF CU. IN THE CASE OF AG PLATED CONDUCTORS THE GREEN SUBSTANCE WAS FORMED ONLY WHEN THE AG COVER WAS POROUS. IN THIS CASE CORROSION OF CU WAS OBSD., OBVIOUSLY OWING TO THE FORMATION OF LOCAL MICROCELLS. AT THE SAME TIME THE CONTACT AG-CU P.D. IN 30PERCENT ALC. ROSIN SOLN. WAS AS HIGH AS 0.34 V AND THE CORROSION CURRENT WAS 1.5 TIMES 10 PRIME NEGATIVE6 A.

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ELECTROPLATING TITANIUM PRIOR TO SOLDERING -U-
AUTHOR--(02)-BONDAREV, V.V., STENDER, V.V.
COUNTRY OF INFO--USSR *B*
SOURCE--TR., GOS. NAUCH.-ISSLED. PROEKT. INST. SPLAVOV OBRAB. TSVET. METAL
1970, NO. 31, 105-13
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--TITANIUM, TITANIUM ALLOY, COPPER, METAL COATING,
ELECTROPLATING, METAL SOLDERING

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/0589 STEP NO--UR/0000/70/000/031/0105/0113
CIRC ACCESSION NO--AT0134354
UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0134354

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PRIOR TO SOLDERING TI OR TI ALLOYS WITH LOW MELTING SOLDERS OR SOLDER MELTING AT 400-600DEGREES, THEY SHOULD BE ELECTROPLATED WITH CU 10-15 MU THICK, AND THE CU-PLATED TI SHOULD BE SUBSEQUENTLY TREATED FOR 20-30 MIN AT 780-810DEGREES IN VACUO.

UNCLASSIFIED

USSR

UDC 533.6.01.5

BONDAREV, YE. N., and GUSHCHIN, G. A.

"Three-Dimensional Interaction of Jets Diffusing in a Concurrent Supersonic Stream"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika Zhidkosti i Gaza, No 6, Nov-Dec 72, pp 88-93

Abstract: A numerical method is developed for the calculation of a three-dimensional laminar supersonic unexpanded jet discharging into a concurrent supersonic stream. Simplified Navier-Stokes equations are used for representing steady-state flow. Numerical calculations of several cases of the discharging of jets from a four-nozzle unit into a concurrent supersonic stream are conducted, and some features of such three-dimensional flow are ascertained. 7 figures, 4 references.

1/1

USSR

UDC 613, 693

BONDAREV, Z. V., YEGOROV, V. A., and KOLOSOV, V. A.

"Cardiovascular Function in Airplane Crews During Long Flights"

Moscow, Voenno-Meditsinskiy Zhurnal, No 8, 1972, pp 65-67

Abstract: Study of cardiovascular changes in airplane crews during long flights and short flights involving refueling in the air revealed a direct correlation between the degree of stress present at a given stage of the flight and the cardiovascular response. For example, the heart rate before the engines were started was within normal limits (68 to 80 beats a minute) but higher than on nonflying days. At takeoff and landing the heartbeats of the pilots increased to 120 to 150 compared to 70 to 100 during the flight and 60 to 83 after the flight. As the plane approached general area of the tanker, the pilots' heart rate averaged 72 beats a minute, rising to 111 as the two planes neared and to 140 during the actual refueling (the tensest part of the flight). Analysis of the P-Q and Q-T intervals on the electrocardiogram also revealed changes directly related to the degree of stress present during the different situations encountered in flight.

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- 1 -

1/2 021

UNCLASSIFIED

PROCESSING DATE--09OCT70

TITLE--THE STATE OF VISION AND REFRACTION IN JUVENILES OF THE CITY OF
MINSK -U-

AUTHOR--(02)-MOGILEVCHIK, A.Z., BONDAREVA, A.F.

COUNTRY OF INFO--USSR

SOURCE--ZDRAVOUKHRANENIYE BELORUSSII, 1970, NR 2, PP 42-43

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VISUAL DEFECT, PEDIATRICS, MEDICAL EXAMINATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1988/1657

STEP NO--UR/0477/70/000/002/0042/0043

CIRC ACCESSION NO--AP0106403

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0106403

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AS A RESULT OF PROPHYLACTIC EXAMINATION OF 31641 JUVENILES OF THE CITY OF MINSK THE AUTHORS STUDY THE STATE OF REFRACTION AND COME TO THE CONCLUSION THAT THE PERCENTAGE OF MYOPIA AMONG JUVENILES COMPOSES 10PERCENT. OF THEM 8.3PERCENT ARE MYOPES OF THE LOW DEGREE, 2.3PERCENT, OF MEAN QUANTITY, 0.3PERCENT, HIGH LEVEL MYOPES. HYPERMETROPIA IN JUVENILES COMPRISES 0.9PERCENT, ASTIGMATIC REFRACTION COMES ACROSS ONLY IN 0.4PERCENT OF THE NUMBER OF ALL THE EXAMINED JUVENILES.

UNCLASSIFIED

USSR

UDC 669.721

VYATKIN, I. P., KECHIN, V. A., MISHKOV, S. V., BRANDMAN, O. I., and
BONDAREVA, E. P.

"Composition and Structure of High-Purity Initial Magnesium"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970,
pp 185-189, resume

Translation: A new method of refining magnesium by processing magnesium with titanium-containing additives has been developed and introduced. The composition dependence of the magnesium structure was investigated on special specimens with titanium and beryllium additions. It is shown that the addition of beryllium with a view to decreasing the oxidizability of high-purity magnesium does not affect an enlarging of the macrograin in presence of a titanium admixture. Four figures, one table, seven bibliographic references.

1/1

- 35 -

Food Technology

2

USSR

UDC 612.392.9:612.398.3-083

SLONIMSKIY, G. L., BRAUDO, Ye. Ye., YERTANOV, I. D., TOLSTOGUZOV, V. B.,
BONDAREVA, E. S., and PLASHCHINA, I. G., Laboratory of Physics of Polymers,
Institute of Elementoorganic Compounds, Academy of Sciences USSR

"Susceptibility of Proteins in New Food Products to Attack by Proteolytic
Enzymes"

Moscow, Voprosy Pitaniya, No 6, 1970, pp 25-31

Abstract: The susceptibility of proteins in different kinds of synthetic caviar (based on casein, evaporated milk, etc.) and synthetic groats to attack by proteolytic enzymes of the gastrointestinal tract in vitro was compared with the susceptibility of the original protein mixtures used to make the caviar and groats. The susceptibility of proteins to attack by pepsin in all the kinds of caviar studied was higher than that of the proteins in the original mixture. The degree of trypsin and chymotrypsin proteolysis of the pepsin-digested proteins in the caviar was equal to or higher than the degree of proteolysis of the pepsin-digested original protein mixtures. The degree of pepsin proteolysis of proteins in the synthetic groats was equal to or lower than the degree of proteolysis of
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USSR

SLONIMSKIY, G. L., et al, Voprosy Pitaniya, No 6, 1970, pp 25-31

the original protein mixtures. The degree of trypsin proteolysis of the pepsin-digested proteins in the groats was equal to the degree of proteolysis of the pepsin-digested original protein mixtures.

2/2

1/2 008 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--PREPARATION OF AROMATIC ACID CHLORIDES -U-
AUTHOR-(03)-USPENSKAYA, I.N., MOTSAREV, G.V., BONDAREVA, G.G.
COUNTRY OF INFO--USSR
SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(5), 328-32
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMICAL PRODUCTION, CHLORINATED AROMATIC COMPOUND, BENZENE
DERIVATIVE, ACID CHLORIDE, CHEMICAL SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/0859 STEP NO--UR/0064/70/046/005/0328/0332
CIRC ACCESSION NO--AP0137887
UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0137887
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHODS, INCLUDING INDUSTRIAL ONES
BASED ON MONO AND BIS(TRICHLOROMETHYL) BENZENES, FOR PREPF. AROMATIC
ACID CHLORIDES ARE REVIEWED.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--PHYSICOCHEMICAL STUDY OF TERNARY AQUEOUS SYSTEMS WITH THE
PARTICIPATION OF POTASSIUM TITANYLOXALATE -U-
AUTHOR-(02)-BELYAYEV, I.N., BONDAREVA, S.V.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1359-61
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--AQUEOUS SOLUTION, TERNARY FLUID SYSTEM, CHEMICAL
PRECIPITATION, SOLUBILITY, FLUID VISCOSITY, ELECTRIC CONDUCTIVITY
MEASUREMENT, TITANATE, OXALATE, NITRATE, ALKALI METAL HALIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1415 STEP NO--UR/0078/70/015/005/1359/1361
CIRC ACCESSION NO--AP0135089
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0135089

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE SOLY., VISCOSITY, D., AND SP. ELEC. COND. WAS DETD. IN K SUB2 TIO(C SUB2 O SUB4) SUB2 -XX-H SUB2 O SYSTEMS AT 20DEGREES, WHERE X EQUALS CL, BR, I, OR NO SUB3. THESE ARE THE SIMPLE EUTONIC SYSTEMS, HAVING SALTING OUT EFFECT OF TIO(C SUB2 O SUB4) SUB2 PRIME2NEGATIVE INCREASING WITH THE ANION IN THE ORDER NO SUB3 LESS THAN CL LESS THAN BR LESS THAN I.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--PHYSICOCHEMICAL STUDY OF SRTIO (C SUB2 O SUB4) SUB2 -KCL-H SUB2 O
AND SRTIO (C SUB2 O SUB4) SUB2 -KNO SUB3 -H SUB2 O QUASITERNARY SYSTEMS
AUTHOR--(02)-BELYAYEV, I.N., BONDAREVA, S.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(1), 8-11

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--PHYSICAL CHEMISTRY PROPERTY, EUTECTIC MIXTURE,
CRYSTALLIZATION, POTASSIUM CHLORIDE, POTASSIUM NITRATE, OXALATE,
STRONTIUM COMPOUND, TITANATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/1918

STEP NO--UR/0153/70/013/001/0008/0011

CIRC ACCESSION NO--AT0114358

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AT0114358

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT 20DEGREES, THESE SYSTEMS ARE OF THE SIMPLE EUTECTIC TYPE, WITH REGIONS CORRESPONDING, RESP., TO THE CRYSTN. OF SRTI-O (C SUB2 O SUB4) SUB2 .5.5H SUB2 O AND TO KCL OR KNO SUB3. TWO CRYSTN. FORMS ARE FOUND IN EQUIL. WITH LIQ. PHASE COMPNS. OF 0.05 WT.PERCENT SRTIO-(C SUB2 O SUB4) SUB2 -24.95 WT.PERCENT KCL AND WITH 0.37 WT.PERCENT SRTIO(C SUB2 O SUB4) SUB2-23.93 WT.PERCENT KNO SUB3, WHEREAS ONLY A SINGLE SOLID PHASE IS FOUND IN REGIONS REMOVED FROM THESE COMPNS. THE DS., VISCOSITIES, AND ELEC. COND. ARE GIVEN FOR THE EQUIL. LIQ. PHASE. ONLY D. SHOWS A WEAK MAX. CORRESPONDING TO THE EUTECTIC COMPN. FACILITY: ROSTOV. GOS. UNIV., ROSTOV, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--POTENTIOSTATIC PASSIVATION OF ZIRCONIUM IN SULFATE SOLUTIONS -U-
AUTHOR-(02)-BONDAREVA, T.P., NOVAKOVSKIY, V.M.
COUNTRY OF INFO--USSR
SOURCE--ZASHCH. METAL. 1970, 6(2), 207-9
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--ZIRCONIUM ALLOY, SULFATE, METAL PASSIVATION, DIELECTRIC
CONSTANT, METAL ELECTRODE, SHEET METAL, METAL CLEANING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1909

STEP NO--UR/0365/70/006/002/0207/0209

CIRC ACCESSION NO--AP0118871

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118871

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ZR ELECTRODES MADE OF ROLLED ZR SHEETS WERE MECH. AND CHEM. CLEANED AND THEN STUDIED IN 0.1 AND 15N H SUB2 SO SUB4 SOLNS. POLARIZATION WAS EFFECTED POTENTIOSTATICALLY AND THE CURRENT WAS AUTOMATICALLY RECORDED. BY GOING FROM A INITIAL POTENTIAL OF 0.0 OR 0.3 V MAINTAINED FOR SOME TIME TO MORE POS. POTENTIALS, SUCH AS 0.5, 0.7, OR 1.0 V, THE EXTERNAL ANODIC CURRENT INCREASED AND THEN DIMINISHED GRADUALLY WITH TIME. THE INCREASED AMT. OF ANODIC CURRENT I FLOWING THROUGH THE ELECTRODE IS EXPRESSED BY THE EQUATION: I EQUALS A PLUS $(B-TAU)$, WHICH IN ITS INTEGRAL FORM EXPRESSES THE LOGARITHMIC LAW OF THIS INCREASE (TAU IS TIME). THE INCREASE OF RECIPROCAL OF THE ELECTRODE CAPACITANCE $1-C$, WHICH IS PROPORTIONAL TO THE CURRENT CONSUMED IN THE FORMATION OF THE PASSIVATING FILM, IS ALSO SUBJECT TO SAME TYPE OF LAW. THE AMT. OF CURRENT (QF) CONSUMED IN THE FORMATION OF THIS FILM IS OBTAINED QF EQUALS $EPSILON$ $EPSILON$ SUB0 $SIGMA$ SUB2 PRIME2 $F-V$, WHERE $EPSILON$ IS THE DIELEC. CONST. OF THE FILM, $EPSILON$ SUB0 EQUALS 8.85 TIMES 10 PRIMENEGATIVE8 MUF-CM AND IS THE DIELEC. CONST. OF A VACUUM, $SIGMA$ IS THE COEFF. OF ROUGHNESS OF THE ELECTRODE, AND V IS THE MOLAR VOL. OF THE SUBSTANCE OF THE FILM WHICH IN THE CASE OF ZRO SUB2 IS 21.7 CM PRIME3-MOLE. LITERATURE VALUES FOR THE COEFF. OF ROUGHNESS OF ZR ARE GIVEN AS 1.1-1.3 AND FOR THE DIELEC. CONST. OF ZRO SUB2 AS 20-27. FACILITY: NAUCH.-ISSLED. FIZ.-KHIM. INST. IM. KARPOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 620.193.01

B
BONDAREVA, T. P., and NOVAKOVSKIY, V. M., Scientific Research Physicochemical
Institute imeni L. Ya. Karpov

"Regularities of Potentiostatic Passivation of Zirconium in Sulfuric Acid Solutions"
Moscow, Zashchita Metallov, Vol 6, No 2, Mar-Apr 70, pp 207-209

Abstract: A study was made of the potentiostatic conditions of passivation permitting constancy of the motive power of the process and equivalent (in this respect) to oxidation with the pressure of the oxidizing component in the gas phase being constant. The selected potential region eliminated the possibility of anodic separation of molecular oxygen. The experiment involved zirconium "iodide" foil cleaned with fine emery paper and treated with a mixture of 70% nitric and 40% hydrofluoric acids and doubly distilled water at a 9:1:10 ratio for 10 seconds followed by rinsing in boiling doubly distilled water. 0.1 and 15 N H_2SO_4 solutions served as working electrolytes. The polarization was produced by a P3B potentiostat and the electrode impedance was measured with a phase-sensitive FV-1 voltmeter. The diagram of the experimental unit is given in the original article. The results of the experiment may be regarded as additional proof that the logarithmic law reflects the significant characteristics of the potentiostatic growth of passive films on barrier-layer metals. This, of course, does not exclude some possible deviations due to dissolution processes, rearrangement of changes in the electrophysical properties of the film, etc.

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USSR

UDC: None

BONDAREVA, V. F., Moscow

"Contact Problems of an Elastic Sphere"

Moscow, Prikladnaya matematika i mekhanika, 1971, vol. 35, No. 1, pp 61-70

Abstract: The basis for this article is laid by an earlier paper of the same author writing in the same journal (1969, No. 6, vol. 33, O deystvii normal'noy nagruzki na uprugiy shar -- Effect of a Normal Load on an Elastic Sphere) in which she found a closed solution of the first boundary problem for such a sphere. In the present paper, she investigates the sphere's contact problems, including the problem with previously unknown boundary conditions of the separating edge. The solutions to these problems are compared with those obtained by Heinrich Hertz (Ueber die Berührung fester elastischer Körper, J. reine und angew. Math., 1882, vol. 92, Nos. 1 and 2) and a comparative plot is made. The comparison shows that, for large contact regions, the Hertz solution, obtained under the assumption that the contacting bodies can be replaced by half-spaces, results in substantial errors. The author thanks L. S. Barkov, who made all the computations.

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USSR

BONDAREVSKAYA, Ye. A., PROPOTOVA, Ye. D., and GRADSHOVA, N. A.

"Determining Micro-Mixtures of Aluminum in Silane Chlorides"

Moscow, Zavodskaya laboratoriya, No. 5, 1971, pp 539-540

Abstract: The silane chlorides with which this paper is concerned are the initial product of the synthesis of organic silicon compounds, which often contain an aluminum chloride impurity that lowers the quality of the final product. The process described involves precipitating the impurity, or micro-mixture, from the basic material and then determining the aluminum content from photometric spectroscopy. The reagent used for detecting the aluminum was S chromazurol, and the instrument used for the spectroscopic examination was the SF-10 spectrophotometer. Curves for the absorption spectra of S chromazurol and its complex with aluminum are plotted.

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1/2 018 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--ANALYSIS OF HETEROORGANIC COMPOUNDS. VII. DIFFERENTIAL
SPECTROPHOTOMETRIC DETERMINATION OF SILICON AS MOLYBDOSILICIC ACID -U-
AUTHOR-(03)-TERENTYEV, A.P., GRANDSKOVA, N.A., BONDAREVSKAYA, YE.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. ANAL. KHIM. 1970, 25(1), 196-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--FABRIC, HETEROCYCLIC BASE COMPOUND, SILICON,
SPECTROPHOTOMETRIC ANALYSIS, BENZENE DERIVATIVE, ORGANOSILICON COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1984/1328 STEP NO--UR/0075/70/025/001/0196/0198
CIRC ACCESSION NO--AP0055999
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0055999

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A VARIANT FOR THE DIFFERENTIAL SPECTROPHOTOMETRIC METHOD FOR SI DETN. AS MOLYBDOSILICIC ACID IS SUGGESTED WITH K SUB2-CRO SUB4 IMITATING THE COLOR OF THE ACID AS REF. SOLN. THE REF. SOLN. IS PREPD. BY DISSOLVING 3 G K SUB2 CRO SUB4 IN 1 1.0.05N KOH. THE ABSORBANCE OF THIS SOLN. (1 ML IN 50 ML H SUB2 O) CORRESPONDS AT 400 MMU TO THAT OF THE MOLYBDOSILICIC ACID CONTG. 365 MUG SI. THE METHOD CAN BE USED FOR THE DETN. OF SI IN ORGANOSILICON COMPS., SUCH AS PH SUB3 SIOH, PH SUB3 SIOSIPH SUB3 AND FABRICS IMPREGNATED BY VARIOUS HYDROPHOBIC ORGANOSILICON LIQS. WITH STD. DEVIATIONS OF 0.08-0.14.

UNCLASSIFIED

Radiation Chemistry

USSR

UDC 535.34.083.2:538.56

BONDAREVSKIY, S. I., MURIN, A. N., and SEREGIN, P. P., Leningrad State University, Department of Radiochemistry, Institute of Semiconductors, USSR Academy of Sciences

"The Mössbauer Effect in the Study of the Chemical Effects of Nuclear Transformations"

Moscow, Uspekhi Khimii, Vol XL, No 1, Jan 1971, pp 95-116

Abstract: Up to now, stabilization of recoil atoms has been studied largely by observing solutions of irradiated samples. While useful in such immediate practical concerns as isotope enrichment, this method does nothing to advance the study of recoil atoms within solid bodies, since no definite conclusions can be reached on the relative effects exerted by the process of solution. The authors review important studies touching on this problem written during the sixties and through 1970; and summarize what is known of the Mössbauer effect as the basis for a new method of solid-state research.

A summary of basic facts, definitions and conceptions concerning the Mössbauer effect is given first. This is followed by the first main section of the survey, in which are considered the effects which K-capture, isomeric

USSR

BONDAREVSKIY, S. I., et al., Uspekhi Khimii, Vol XL, No 1, Jan 1971, pp 95-116

transition and β -decay have on the forms which stabilization of the Mössbauer may assume; lifetimes of metastable Mössbauer atoms and stabilization forms are discussed in detail. The second main section deals with the processes of energy loss from recoil atoms in solid bodies; here are considered, first, the application of the "Mössbauer method" to such energy losses in both metallic and nonmetallic targets, particularly iron and its compounds, and, second, present-day concepts of such energy losses. The third section is an analysis of the present status of the "solid-solution" problem, with stress on the recent (1969-1970) contributions of Soviet investigators.

The authors conclude that the Mössbauer (nuclear gamma-resonance) method is a highly significant new tool for solid-state physics which offers the following advantages: 1) unified and exactly reproducible radiation conditions, not obtainable in solution-based methods, 2) very wide range of observation temperatures up to about 1,000°K, and 3) observation times ranging from 10^{-7} down to 10^{-9} sec sufficiently short to avoid the effects of annealing phenomena, which are often intense at ordinary temperatures. The 151-item bibliography includes about 25 works of Soviet origin.

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1/2 029

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--MOSSBAUER STUDY OF THE AFTER EFFECTS OF NUCLEAR REACTIONS IN
SOLIDS -U-

AUTHOR--(G3)-MURIN, A.N., BCNDAKEVSKIY, S.I., SEREGIN, P.P.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(4), 1095-8

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MOSSBAUER EFFECT, NEUTRON IRRADIATION, PHOTON EMISSION, TIN
OXIDE, INELASTIC SCATTERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3005/1625

STEP NO--UR/0181/70/012/004/1095/1098

CIRC ACCESSION NO--AP0133532

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0133532

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. BY THE MOESSBAUER METHOD STUDY WAS CARRIED OUT OF CONSEQUENCES OF THE REACTION $Zn(\gamma)$ IN SNO IN THE CONDITIONS OF REACTOR IRRADN. THE RESULTS OF THE EXPT. ARE USED IN THE DISCUSSION OF THE MECHANISM OF STABILIZATION OF RECOIL ATOMS IN A SOLID. IN THE COURSE OF NUCLEAR REACTIONS CHARACTERIZED BY A HIGH ENERGY OF RECOIL THE MOESSBAUER METHOD SHOWS THAT A CONSIDERABLE NO. OF RECOIL ATOMS ARE RETAINED IN THE LATTICE POINTS. THIS IS EXPLAINED BY DEVIATION OF THE CORRELATION BETWEEN IMPULSE AND THE RECOIL ENERGY. FACILITY: LENINGRAD. GOS. UNIV. IM. ZHDANOVA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--MOESSBAUER EFFECT IN TIN IMPURITY ATOMS IN SILVER HALIDES -U-
AUTHOR--(04)-YEFIMOV, A.A., BONDAREVSKIY, S.I., SEREGIN, P.P., SHIPATOV,
V.T.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(3), 949-50
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--MOSSBAUER EFFECT, SILVER COMPOUND, HALIDE, IODIDE, CHLORIDE,
DEBYE TEMPERATURE, EMISSION SPECTRUM, SPECTROSCOPY, TIN, METAL IMPURITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1288 STEP NO--UR/0181/70/012/003/0949/0950
CIRC ACCESSION NO--AP0116750
UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116750

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STATE OF SN ATOMS WAS STUDIED IN AGCL AND AGI BY MOESSBAUER EMISSION SPECTROSCOPY USING PRIME119 SN PRIMEM. SN WAS INTRODUCED BY MELTING THE ABOVE SALTS WITH METALLIC PRIME118 SN THEN IRRADIATING WITH AN INTEGRAL FLUX OF THERMAL NEUTRONS (2 TIMES 10 PRIME21 N-CM PRIME2). THE SPECIMENS OBTAINED WERE MOESSBAUER SOURCES AND CA STANNATE WAS THE ABSORBER. CONCN. OF SN DID NOT EXCEED 5 TIMES 10 PRIME18 -CC. THE MAGNITUDE OF THE CHEM. SHIFT OF PRIME119 SN PRIMEM IN AGCL AND AGI CORRESPONDS TO THE PRESENCE OF ONLY SN PRIME4POSITIVE IONS. IT CAN BE ASSUMED THAT SN PRIME4POSITIVE ION IS IN INTERSTIAL LOCATIONS AND SURROUNDED BY 4 CATIONIC VACANCIES. ANOTHER POSSIBILITY IS THAT SN PRIME4POSITIVE ION IS LOCATED AT CATIONIC SITES AND FORMS ASSOCNS. WITH 3 CATIONIC VACANCIES. THIS IS CONFIRMED BY THE BROADENING OF THE MOESSBAUER SPECTRA. THE EFFECTIVE DEBYE TEMPS. WERE CALCD. FROM THE MOESSBAUER COEFF.

UNCLASSIFIED

USSR

UDC 539.4:624

PALKIN, Ye. S., BONDAREVSKIY, Yu. P.

"Stress State of the Arch-Gravity Dam of Sayanskoy Hydroelectric Power Station"

Tr. Vses. proyekt.-izyskat. i NII "Gidroproyekt". Leningr. otd. (Works of the All-Union Experimental Design and Planning and Scientific Research Institute "Gidroproyekt". Leningrad Department), 1971, Collection 25(13), pp 105-114 (from RZh-Mekhanika, No 6, Jun 72, Abstract No 6V771)

Translation: Static and experimental studies of the total stress state of a dam under combinations of two basic and three particular sets of loads and actions, including seismic, are described. The methods of test loads are used in calculations of the dam (the complete method for hydrostatic water pressure and the first radial equation for displacements for seismic loads). The central cantilever method is also used. Experimental studies were made on elastic and brittle models. The most unfavorable stress state of the dam arises with the combination of the basic loads considering temperature effects and the effect of a longitudinal seismic force, i.e., directed along the axis of the dam. For this case the maximum tensile stress was 20 kg/cm^2 and the maximum compressive stress was 103 kg/cm^2 . The compu-

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USSR

PALKIN, Ye. S., BONDAREVSKIY, Yu. P., Tr. Vses. proyekt.-izyskat. i NII
"Gidroproyekt". Leningr. otd., 1971, Collection 25(13), pp 105-114

tational and experimental results of the studies agree satisfactorily. A truer picture of the distribution of the major compressive forces at the downstream face at the base of the channel portion of the dam was established by the experimental studies. A. S. Kozhevnikov.

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USSR

AVERKOVICH, N. V., BONDAREVSKIY, Ye. Ya., DANILOV, Yu. G., and MIROMOV, W. N.,
All Union Scientific Research Institute of Physical Culture, Moscow Institute of
Electronic Machine-Building, Kursk Polytechnical Institute, and L'vov Polytech-
nical Institute

"The Level of Physical Fitness of People Living in Various Parts of the Country,
and Methods of Evaluating It"

Moscow, Teoriya i Praktika Fizicheskoy Kul'tury, No 10, Oct 70, pp 34-39

Abstract: Fitness levels were assessed in 30,000 male and female first- and second-year students at various institutions of higher learning in Moscow, Kursk, and L'vov. The evaluation was based on performance in various athletic events (100 m dash, running broad jump, shot put, 1,500 m run, etc.) and compared with norms established for two different national exercise programs: GTO (Ready for Labor and Defense of the USSR), which has been in existence for 10 years, and the recently proposed (1969) GYZR ("Ready for Labor and Protection of the Motherland"). Although the students of the Moscow institutes and university did best in most of the events in the GTO program, the vast majority of all of the students turned in

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USSR

AVERKOVICH, N. V., et al, Teoriya i Praktika Fizicheskoy Kul'tury, No 10, Oct 70, pp 34-39

an overall performance of satisfactory or better, showing that the GTO exercises are too "easy." On the other hand, performance in the GZSR events was significantly below expectations, primarily because the fitness level of most of the students was too low. Geography is considered to be only one of several factors (e. g., the nature of the institute attended, gym requirements, etc.) cited as responsible for the differences in results among the various institutions.

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AA0044298

Soviet Inventions Illustrated, Section II Electrical, Derwent,

UR 0482

B

1/70

243099 WAVEGUIDE FILTER is a half-wave resonator in the shape of a metallised dielectric parallel-piped which has a length of half the resonant wavelength and the same cross section as the waveguide in which it is to be installed. The coupling apertures at the resonator input and output faces are produced by removal of the metal coating along a slit-like area. 18.10.67. as 1191528/26-9 Yu.S.BONDARTSEV et al. (16.9.69.) Bul.16/5.5.69. Class 21g. Int.Cl. H03h.

AUTHORS: Bondartsev, Yu. S., Pogorelov, Ye. A., Rusakov, Yu. V.

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19770852

USSR

UDC: 621.317.791

BERKMAN, R. Ya., BONDARUK, B. L., and RAKHLIN, L. I.

"Magnetotransistor D-C Voltage Amplifiers"

Moscow, Izmeritel'naya tekhnika, No 4, 1972, pp 56-57

Abstract: The characteristics and applications of the magnetic modulator, especially in d-c amplifiers, are discussed. To begin with, the authors complain that the potentialities of the device are greater than its current application warrants, and that the operation specifications and parameters of the modulator recommended in the literature on it are not always optimal. They discuss research conducted on the modulator by the Physico-Mechanical Institute of the USSR Academy of Sciences, in which relationships between its parameters and those of measuring circuits guaranteeing operation stability were found. A variation in structure of the device has been developed in which the effect of the distributed capacitance in the control winding has been eliminated, with the result that the coil can be manufactured with any number of turns and that the current sensitivity of the device is sharply increased. A detailed list of the technical characteristics of a microvolt-nanoammeter using the modulator is given plus a suggested block diagram of this d-c meter.

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- 120 -

USSR

UDC: 621.376

BERKMAN, R. Ya., BONDARUK, B. L.

"High Current Sensitivity Magnetic Modulator"

Otbor 1 peredacha inform. Resp. mezhved. sb. (Selection and Transmission of Information, Republic Interdepartmental Collection) 1970, No. 26, pp 78-83 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3D408)

Translation: A description is given of a new construction of magnetic modulator in which the effect of the control winding characteristic capacitance does not hinder improvement in sensitivity. Technical characteristics of the devices developed on the basis of the new type of modulator are given. Bibliography of three. Resume

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USSR

UDC: 51

OGANYAN, R. A., BONDER, O. V., IGNATENKO, N. V.

"Three Programs for Solving an Intersectoral Dynamic Model"

V sb. Algoritmy i programy realizatsii narodnokhoz. modeley (Algorithms and Programs for Realizing National Economic Models--collection of works), Novosibirsk, 1971, pp 134-149 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V447)

Translation: Description of three versions of a program for an 18-sector model, flowcharts and texts of the programs in ALPHA language.

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1/2 032 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--KINETICS OF THE DISSOLUTION OF CERTAIN METALS IN NITROSE -U-

AUTHOR--(03)--RTVELADZE, V.V., BONDIN, S.M., KRESTOVNIKOV, A.N.

COUNTRY OF INFO--USSR

SOURCE--IZVEST. V.U.Z., TSIVETNAYA MET., 1970, (1), 35-38

DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS

TOPIC TAGS--CHEMICAL KINETICS, NITROSO COMPOUND, COPPER, SILVER,
PALLADIUM, SULFURIC ACID, NITROGEN OXIDE, CORROSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--2000/1551

STEP NO--UR/0149/70/000/001/0035/0038

CIRC ACCESSION NO--AP0125177

UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125177

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICS OF THE DISSOLUTION OF CU, AG, AND PD IN NITROSE (FORMALLY REPRESENTED BY H SUB2 SO SUB4 PLUS NO) WAS STUDIED USING THE ROTATING DISC METHOD. THE RATE OF DISSOLUTION VARIED AS THE SQUARE ROOT OF THE NUMBER OF REVOLUTIONS. THE RATE OF DISSOLUTION OF PD AND AG WAS OF THE FIRST ORDER IN RELATION TO THE ACID CONCENTRATION; THE DISSOLUTION OF CU OBEYED A MORE COMPLEX RELATION. THIS DIFFERENCE WAS ATTRIBUTED TO THE FACT THAT THE DISSOLUTION OF CU WAS GOVERNED BY DIFFUSION PROCESSES, AND THAT OF PD AND AG BY A COMBINATION OF DIFFUSION AND KINETIC MECHANISMS.

UNCLASSIFIED

USSR

UDC 669.295:621.77

KRASNIKOV, N. Ye., SKRYABIN, N. P., and BONDYUGIN, V. M.

"Deformation Characteristics of Titanium Alloys in Rolling"

Moscow, Tsvetnyye Metally, No. 7, Jul 71, pp 71—73

Abstract: The deformation process of titanium alloys was investigated by rolling composite and solid specimens of the alloys Vt1-1, Vt5, Vt8, Vt15, etc. The experiments revealed that the lower the plasticity and the higher the resistance to deformation of surface layers relative to central layers, the greater the widening of the rolled strip. For the calculation of the widening, formulas for the widening of steel strips with a certain correction can be used. A modified formula of A.I. Grishkov is presented from which the widening of titanium alloys can be calculated with a maximum discrepancy of 10 %. Three illustr., two formulas, one table, eight biblio. refs.

1/1

USSR

UDC 621.396.6.017.72(088.8)

B
BONEY, P. G., KRUPINA, R. P.

"A Device for Thermal Insulation of Radio Electronic Equipment"

USSR Author's Certificate No 254828, Filed 22 Dec 67, Published 9 Mar 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V257 P)

Translation: This Author's Certificate introduces a device for thermal insulation of radio electronic equipemnt. The device contains a thermostatically controlled chamber. As a distinguishing feature of the patent, the effectiveness of the thermal insulation is improved by making the thermostatically controlled chamber in the form of two closed evacuated shells of glass located one inside the other and separated from one another by heat-insulating support discs. The electrical leads which hold the inner shell pass through these discs.

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1/2 023 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SOME TYPES OF HORIZONTAL INTERACTION PROVIDING NORMAL VISION OF
IMAGES MOVING ALONG THE RETINA, MODELLING OF SOME HUMAN VISUAL FUNCTIONS
AUTHOR--(02)-BONGARD, M.M., GOLUBTSOV, K.V.

COUNTRY OF INFO--USSR

SOURCE--BIOFIZIKA 15(2): 361-373. ILLUS. 1970

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MODEL, VISUAL ACTIVITY, VISION, RETAIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605008/B05 STEP NO--UR/0217/70/015/002/0361/0373

CIRC ACCESSION NO--AP0139940

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139940

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MODEL IS DESCRIBED WHICH AT THE SAME TIME HAS NORMAL PERCEPTION OF MOVING OBJECTS AND COMPLETE ABSENCE OF THE PERCEPTION OF STATIONARY IMAGES. A NEW TYPE OF HORIZONTAL INTERACTION BETWEEN THE CHANNELS HAD TO BE USED TO COMBINE THESE PROPERTIES. IT WAS PERFORMED BY ONE SIDED PROPAGATING SIGNAL, WHICH WAS WORKED OUT BY NONLINEAR TRANSFORMATION OF BRIGHTNESS GRADIENT. THE MODEL AUTOMATICALLY REPRODUCED SOME PROPERTIES OF HUMAN VISION, SUCH AS, FOR INSTANCE, THE FALL OF VISION KEENNESS AT LOW BRIGHTNESS. MACH EFFECT, MANY PECULIARITIES OF THE PERCEPTION OF STATIONARY IMAGES.

FACILITY: INST. PROBL. INFORM. TRANSM., ACAD. SCI. USSR, MOSCOW, USSR.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--UTILIZATION OF ION EXCHANGE RESINS TO DETERMINE AMINO ACIDS OF
MICROBIAL ORIGIN --U-
AUTHOR-(02)-BONISLAVSKAYA, K.G., PETRUS, V.S. B
COUNTRY OF INFO--USSR
SOURCE--MIKROBIOL. ZH. (KIEV) 1970, 32(1), 124-6
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--KLEBSIELLA, CONTINUOUS CULTURE, AMINO ACID, BIOSYNTHESIS,
FRACTIONATION, ION EXCHANGE RESIN, PAPER CHROMATOGRAPHY

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/0489 STEP NO--UR/0438/70/032/001/0124/0126
CIRC ACCESSION NO--AP0134257
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0134257

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CULTURE MEDIUM (10.1.), PREVIOUSLY
SEPD. FROM KLEBSIELLA PNEUMONIAE BY CENTRIFUGING AT 12,000 RPM FOR 20
MIN, WAS PASSED THROUGH AN ION EXCHANGE RESIN KU-1 COLUMN (200 TIMES 12
MM), CONTG. 6 G CATIONITE, IN THE H PRIME POSITIVE FORM, OBTAINED BY
WASHING WITH 2N MINERAL ACID. THE LIQ. WAS PASSED AT 15-20 DROPS PER
MIN, THE RESIN WAS THEN WASHED WITH DISTD. H SUB2 O UNTIL NEUTRAL BEFORE
ELUTION OF THE ABSORBED AMINO ACIDS WITH N NH SUB4 OH; TO REMOVE THE
AMINO ACIDS COMPLETELY, THE COLUMN WAS THEN WASHED WITH 30 ML OF DISTD.
H SUB2 O. THE FILTRATES WERE COMBINED, AND EVAPD., AND THE RESIDUE WAS
DISSOLVED IN 0.4 ML OF ISO-PROH. THIS SOLN. WAS PUT ON CHROMATOG.
PAPER, AND ANALYZED FURTHER BY USUAL METHODS. FACILITY:
UZHGOROD. DERZH. UNIV., UZHGOROD, USSR.

UNCLASSIFIED